

## REMARKS

Claims 1-24 remain pending in this application. Previously added claims 21-24 have been entered. Therefore, claims 1-24 are pending in the present application.

Applicants acknowledge that the arguments with respect to claims 1-20 under *Waga* and *Lee* have been fully considered by the Examiner and have been found persuasive, therefore, the previous rejection has been withdrawn and Applicants respectfully respond to the new grounds of rejections herein.

The Examiner rejected claims 1-3 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 5,969,929 (*Kleveland*). Applicants respectfully traverse this rejection.

In the Final Office Action dated December 3, 2004, the Examiner asserted that Applicant had argued that *Kleveland* is directed to reducing parasitic capacitance of the protection circuit to reduce data transmission in high frequency devices, and therefore, does not function as a low pass filter. The Examiner had disagreed with this argument. *See, Response to Argument* section in the Final Office Action dated December 3, 2004. Firstly, Applicants respectfully assert that the Examiner had inadvertently has mischaracterized Applicant's argument (Applicant's arguments are described below). Secondly, *Kleveland* affirmatively asserts that the circuitry disclosed is not a low pass filter, but calls for high performance required by high frequency applications, (see column 5, lines 22-26). *Kleveland* clearly asserts that at low frequencies, the circuit is protected from ESD discharge events, at the same time, the ESD protection circuit provides high performance required by high frequency applications. Further, *Kleveland*

expressly asserts that for high frequency signals, its ESD circuit performs like a transmission line. *See* column 5, lines 21-22. Therefore, ***Kleveland*** expressly discloses that its system is not a low pass filter (emphasis added).

In contrast to ***Kleveland***, claim 1 in the present invention calls for forming a low pass filter. ***Kleveland*** indeed teaches the opposite subject matter as compared to the elements called for by claim 1 of the present invention. Additionally, Applicants had argued that ***Kleveland*** is directed towards reducing capacitance of ESD protection and promoting a reduction of the parasitic capacitance in an attempt to avoid reducing the bandwidth of high frequency devices. In contrast to disclosure in ***Kleveland***, claim 1 calls for the ESD devices being connected to a plurality of turns of an inductor, where the inductor and the parasitic capacitance of the ESD device are used to form a low pass filter. Therefore, ***Kleveland*** performs the opposite of the claimed elements. Upon an examination of ***Kleveland***, those skilled in the art would be directed away from the claims of the present invention. ***Kleveland*** discloses attempting to reduce or eliminate parasitic capacitance, wherein claims of the present invention calls for using the inductance of the turns, in combination with the parasitic capacitance to form a low pass filter. Therefore, ***Kleveland*** does not disclose all of the elements of the claimed invention, in addition, ***Kleveland*** actually teaches away from the claims of the present invention.

In the Final Office Action dated December 3, 2004, the Examiner asserted that Applicants disclosure admits that all ESD devices include significant amount parasitic capacitance that may degrade high frequency signal. Firstly, Applicant's disclosure did not disclose that all ESD includes significant parasitic capacitance, it merely asserted that "these" ESD devices have

parasitic capacitance. However, Applicants respectfully assert that this assertion is of no consequence because the issue is not whether all ESD devices includes a significant amount of parasites. As described above, parasitic capacitance is being used in a novel manner to form a low pass filter, as called for in claim 1, which is not disclosed by **Kleveland**.

In the Final Office Action dated December 3, 2004, the Examiner asserted that **Kleveland** provided the structure that is identical to claims 1-3. In the Final Office Action dated December 3, 2004, the Examiner asserted that **Kleveland** discloses an inductor being connected to the ESD device in a low pass filter configuration using the capacitances of the ESD devices. *See*, Page 5, Final Office Action dated December 3, 2004. Applicants respectfully disagree with Examiner's assertion. Examiner sites col. 3, line 56-58 and col. 5, lines 21-30 of **Kleveland** to support this assertion. However, Applicants assert that neither of these citations, or any other passages in **Kleveland**, support such an assertion. For example, in column 3, lines 55-58, **Kleveland** disclose that the capacitance of the ESD device can be part of the transmission line and it minimally degrades the band widths of the signal. This disclosure in **Kleveland** implies that a low pass filter is not formed, in contrast to the element of claim 1, calling for the formation of a low pass filter. In fact, **Kleveland** attempts to only minimally degrade the bandwidth of high frequency and low frequency transmission, which is clearly not a definition of a low pass filter.

Additionally, the other passage by the Examiner (in col. 5, lines 21-30 of **Kleveland**) discloses that high frequency signals ESD protection performs like a transmission line. The disclosure of **Kleveland** does not seek to prevent high frequency transmission; in fact, it clearly states that the ESD protection 240 of **Kleveland** performs like a transmission line during high

frequency transmission. This is opposite of what is called for by Claim 1 of the present invention, which calls for a low pass filter, thereby restricting high frequency signals. Therefore, Examiner's assertion that *Kleveland* provides identical structure as set forth in claims 1-3, as argued in the Final Office Action dated December 3, 2004, is unfounded and not supported by the disclosure of *Kleveland*. In fact, the disclosure of *Kleveland* clearly support the opposite assertion and *Kleveland* does not disclose elements called for by claim 1 of the present invention, including the element of forming the low pass filter. Therefore, *Kleveland* does not anticipate all of the elements of the claims of the present invention. Additionally, Applicants respectfully asserts that *Ling* does not add disclosure to make up for the missing elements of Claim 1 that is not taught by *Kleveland*. In fact, since *Kleveland* teaches away from the elements of claims of the present invention, simply combining *Ling* would not make obvious all of the elements of the present invention. These arguments are discussed in more details below. Therefore, claim 1 of the claims of the present invention is not taught disclosure suggested by the cited prior art, and thereby, are allowable.

As described above, *Kleveland* does not teach, disclose, or suggest, all of the elements of claim 1 of the present invention. *Kleveland* actually directs one away from the present invention. *Kleveland* is directed towards reducing parasitic capacitance of ESD protection circuits. See column 1, lines 35-38. *Kleveland* promotes reducing parasitic capacitance in an attempt to avoid reducing the bandwidth of high frequency devices. See column 2, lines 5-8. *Kleveland* is directed towards attempting to reduce or eliminate the parasitic capacitance to reduce data transmission errors. In contrast to *Kleveland*, claim 1 of the present invention calls for a plurality of ESD clamp devices being connected to a corresponding one of a plurality of turns on an

inductor, wherein the inductor and the parasitic capacitance is used to form a low pass filter. Additionally, ***Kleveland*** does not mention the utilization of parasitic capacitance. ***Kleveland*** merely mentions the undesirability of parasitic capacitance, wherein claims of the present invention utilizes turns of an inductor in conjunction with the parasitic capacitance of the ESD clamp devices to form a low pass filter. Therefore, ***Kleveland*** does not teach these elements of claim 1. Additionally, claim 1 also calls for an inductor coil for generating an inductance for the low pass filter. The disclosure in ***Kleveland*** does not disclose the plurality of ESD clamp devices with the parasitic capacitance being connected to corresponding turns of an inductor to form a low pass filter. In fact, ***Kleveland*** directs one away from the parasitic capacitance and therefore, does not disclose the low-pass filter elements called for by claim 1 of the present invention. Therefore, claim 1 of the present invention is allowable.

Independent claim 1 is allowable for at least the reasons cited above. Additionally, dependent claims 2-3, which depend from independent claim 1 are also allowable for at least the reasons cited above. Additionally, claim 21, which calls for a device comprising a protection circuit that includes an ESD clamp and inductor, similar to claim 1, is also allowable for at least the reasons cited above.

The Examiner rejected claims 4-20 under 35 U.S.C. § 103(a) as being unpatentable over ***Kleveland*** in view of U.S. Patent No. 5,576,680 (***Ling***). Applicants respectfully traverse this rejection.

Contrary to the Examiner's assertions in the Final Office Action dated December 04, 2004, Applicants respectfully assert that **Ling** does not disclose that a via could be used to connect coil shaped elements to produce an inductive element, as called for by in claim 4 of the present invention. **Ling** discloses a via to connect an inductive core to conductive lines, not connecting coil turns on different layers. *See*, col. 4, lines 39-49. Therefore, **Ling** does not provide the subject matter that the Examiner uses to combine with **Kleveland** in order to make obvious claim 4.

In the Final Office Action dated December 04, 2004, the Examiner stated that **Kleveland** does not disclose that each of the turns of the inductor is formed from a separate layer of the integrated circuit. The Examiner then provides the disclosure of **Ling** to provide the inductive circuit 400 by connecting a plurality of inductor coils having a plurality of turns formed from different horizontal planes of the IC chip. *See* col. 7, lines 59-col. 8, lines 7. However, Applicants respectfully assert that the addition of **Ling** does not make up for the deficits of **Kleveland**. One reason is because **Kleveland** does not disclose the use of the parasitic capacitances provides by the plurality of ESD clamp devices being coupled to corresponding turns of an inductor to form a low pass filter. **Ling** does not provide this disclosure; therefore, the mere addition of **Ling** does not make up for the deficit of **Kleveland**. Also, **Ling** does not disclose the element that the Examiner claims is missing from **Kleveland**, e.g., a via used to connect coil shaped inductive elements to produce an inductive element, as called for by in claim 4 of the present invention.

Further, **Ling** simply does not disclose ESD protection or utilization of parasitic capacitance with inductor turns to make up for the deficit of **Kleveland**. **Ling** is merely directed to forming an inductive circuit on a semiconductor chip. **Ling** provides for patterned lines to form an inductor. Although **Ling** discloses a plurality of inductor elements formed on different horizontal planes, **Ling** does not disclose the subject matter that is lacking in **Kleveland**, but called for by claims of the present invention. See col. 7, lines 59-65. Therefore, combining **Kleveland** and **Ling** would still not disclose the elements of utilizing a plurality of ESD clamp devices with a parasitic capacitance being connected to corresponding turns of an inductor, in order to provide a low pass filter, as called for by claim 4 of the present invention. Therefore, claims 3-17, which directly or indirectly depend from claim 4, are not taught, disclosed, or made obvious by **Kleveland**, **Ling**, or their combination. Additionally, claim 18, which provides a method for forming a plurality of conductive layers provides ESD clamp devices, which are then connected to corresponding coil turns to form a low pass filter for at least the reasons described above. Therefore, claim 18 of the present invention is allowable. Additionally, claims 19 and 20, which depend from claim 18 are also allowable for similar reasons cited above. Furthermore, newly added claim 21, which calls for a device comprising a plurality of ESD clamp devices with a parasitic capacitance being connected to corresponding turns of an inductor, in order to provide a low pass filter, is also not taught or made obvious by **Kleveland**, **Ling**, or their combination, for at least the reasons cited above.

Furthermore, Contrary to the Examiner's assertions in the Final Office Action dated December 04, 2004, Applicants respectfully assert that one skilled in the art would not combine **Kleveland** and **Ling** to make obvious all of the claims of the present invention. **Kleveland** is

directed to distributed ESD protection in a device, wherein **Ling** is directed to forming an inductor on a substrate using line patterns and an inductive core. Without improper hindsight, one skilled in the art would not combine the teaching of **Kleveland** and **Ling** to make obvious all of the claims of the present invention. Contrary to the Examiner's assertions in the Final Office Action dated December 04, 2004, the Applicants assert that without gleaning only from applicants' disclosure a reconstruction of elements of the claimed invention would not be possible. There is no indication in either prior art (**Kleveland** or **Ling**) that a via could be used to connect coil shaped elements to produce an inductive element, as described in the specification and claimed in claim 4, in the present invention (see page 10-11 of the Specification). **Ling** discloses a via to connect an inductive core to conductive lines, not connecting inductive coils on different layer. See, col. 4, lines 39-49 of **Ling**. Therefore, one skilled in the art would not be motivated to combine **Ling** with **Kleveland** to make obvious all of the elements of the present invention. Therefore, one would need improper hindsight by gleaning only from Applicants' disclosure to make obvious all of the elements of the claims of the present invention. However, *arguendo*, even if **Kleveland** and **Ling** were combined, all of the elements of the claims of the present invention would not be obvious to those skilled in the art as described above. Additionally, independent claims 18 and 21 are also not made obvious by **Kleveland**, **Ling** or their combination for at least the reasons described above.

Independent claims 4, 18, and 21 are allowable for at least the reasons cited above. Additionally, dependent claims 5-17, 19-20, and 22-24, which respectively depend from independent claims 4, 18, and 21, are also allowable for at least the reasons cited above.



Reconsideration of the present application is respectfully requested.

In light of the arguments presented above, Applicants respectfully assert that claims 1-24 are allowable. In light of the arguments presented above, a Notice of Allowance is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, **the Examiner is respectfully requested to call the undersigned attorney** at the Houston, Texas telephone number (713) 934-4069 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

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### **IN THE DRAWINGS**

No objection to the drawings was indicated by the Examiner. Unless an indication is provided by the Office to the contrary, Applicants assume the drawings to be acceptable.